



## PCCP DIAMOND GRIND TEXTURING MSP-96-19F

**1.0 Description.** This specification covers diamond grinding the roadway surface of new PCCP in lieu of a wire comb surface finish.

**2.0 Construction Requirements.** All concrete paving on this job shall be in accordance with the standard specifications except as noted herein.

### **2.1 Paving.**

**2.1.1 Surface Finish.** A wire comb surface finish shall not be provided for the specified mainline or adjacent shoulders. Instead, a burlap or astro-turf drag finish shall be provided for, in accordance with the following. After surface irregularities have been removed and while the concrete is still plastic, the concrete shall be given a uniformly roughened surface of gritty texture by use of a seamless burlap fabric drag. The damp fabric shall be dragged in a longitudinal direction. The dragging shall be completed before the concrete is in a condition that it will be torn or unduly roughened and before the concrete has attained its initial set. The fabric shall be maintained clean and free of encrusted mortar. It shall be replaced as often as necessary to obtain the required surface texture. Upon completion of dragging, the surface of the pavement shall be uniform in appearance and shall be free from surplus water, rough or porous spots, irregularities, depressions and other objectionable features.

**2.1.2 Joint Sealing.** All PCCP joint sealing shall be completed, prior to any adjacent surface being diamond ground. It is mandatory that all joints in diamond ground areas have the sealant recessed up to 3/8 inch (10 mm) below the surface so that the grinding process does not encounter the joint material. Any joint seal material contacted and pulled to the surface during the grinding operation as a result of not being properly recessed shall be routed out and refilled to below the surface after the grinding operation is completed. Adjoining areas with joints filled at the same time, such as the shoulders, may also be filled to those limits. Any remaining joints filled at separate times shall be filled according to the plans.

**2.1.3 Diamond Grinding.** Following curing of the PCCP, all traffic lanes shall also be diamond ground as specified herein for the 12 foot (3.6 meter) lane width. Diamond grinding shall be in accordance with Sec 622.30 except as follows.

**2.1.3.1** No diamond grinding shall be done until the pavement has attained strength sufficient to be opened to all types of traffic, and no sooner than twenty one days after being placed. All diamond grinding shall be completed, on any section, prior to opening that section to other than construction traffic.

**2.1.3.2** The grinding head shall be a minimum of 3 feet (1 meter) wide and provide 55 (180) to 60 (200) evenly spaced grooves per foot (meter).

**2.1.3.3** All grooves and adjacent passes shall be parallel to each other and the roadway, with no variation. Adjacent passes shall completely lap with no unground surface between, however they shall not overlap more than 1 1/2 inches (35 mm). Adjacent passes shall be within 1/8 inch (10 mm) of the same height as measured with a 3 foot (914.4 mm) straightedge. Not less than 98 percent of the specified surface shall be textured by grinding. It is preferable that all specified surface be textured. There shall be no ridge between lanes. Any remaining ridges on the outside edge next to the shoulder greater than 1/8 inch (10 mm) in height shall be feathered out to the satisfaction of the engineer in a separate operation.

**2.1.3.4** Grinding operations will be limited only by other contractor operations and the remainder of the contract, and not restricted to daytime closures.

**2.1.3.5** Any deficiencies in the final surface due to improper contractor operations and/or equipment shall be corrected by the contractor at no additional expense to the department. This includes, but is not limited to: a) corrugation of the pavement due to "out of round" wheels or improper cutting operations, b) depressions created due to improper starting or stopping operations, or c) unground ridges due to defective blades. All corrections shall be parallel to, and match, existing operations.

### **3.0 Basis of Payment.**

**3.1 Pavement Thickness.** Pavement thickness determination will be made after all diamond grinding has been completed. The following table applies to adjacent PCCP shoulder as well as the diamond ground traffic lanes. The table in Sec 502.19.1 shall be modified as follows:

<b>Deficiency in Thickness</b>	<b>Deductions - Percent of Contract Unit Price</b>
0 inch to 4/10 inch (0 mm to 10 mm)	None
Over 4/10 inch and not over 6/10 inch (Over 10 mm and not over 15 mm)	15.00
Over 6/10 inch and not over 8/10 inch (Over 15 mm and not over 20 mm)	60.00
Over 8/10 inch (20 mm)	100.00

Pavement deficient in thickness by more than 8/10 inch (20 mm) will be considered under Sec 502.19.2.

**3.2 Profile.** The contract price for PCCP (SY) (square meter) will be considered as compensation for all defined paving operations except the diamond grinding. Diamond grinding (SY) (square meter) will be paid for at a separate contract unit price.

**3.2.1 Pre-Grind Profile.** Payment for smoothness will be made in accordance with Sec 502, prior to diamond grinding, based on the contract unit price for portland cement concrete pavement.

**3.2.2 Diamond Grind Profile.** An additional payment for smoothness based on the new profile after diamond grinding, will be applied to the contract unit price for further reduced profile index as follows. The payment will be determined on the same sections as paid for above, for pre-grind profile. The percent reduction in the pre-grind profile will be calculated by dividing the profile index for each section after grinding (Pag), by the section profile index before grinding (Pbg), and subtracting the value from 1.

<b>Percent Reduction [100(1-Pag/Pbg)]</b>	<b>Percent of Grinding Contract Price</b>
Less than 0.0	90
0.0 to 45.0	100
45.1 to 55.0	102
55.1 to 65.0	105
greater than 65.0	110